

## INVESTIGATION OF ADVANCED DATA PROCESSING TECHNIQUE IN MAGNETIC ANOMALY DETECTION SYSTEMS

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Abstract - Advanced methods of data processing in magnetic anomaly detection (MAD) systems are investigated. Raw signals of MAD based on component magnetic sensors are transformed into energy signals in the space of specially constructed orthonormalized functions. This procedure provides a considerable improvement of the SNR thus enabling reliable target detection. Estimation of the target parameters is implemented with the help of Genetic Algorithm. Numerous computer simulations show good algorithm convergence and acceptable accuracy in estimation of both target location and its magnetic moment.